

DOCUMENT RESUME

ED 088 784

SO 007 250

TITLE Commissioned Research Work by National Board of Education 1971-73. Information Bulletin.

INSTITUTION Finnish National Board of Education, Helsinki. Research and Development Bureau.

PUB DATE May 73

NOTE 70p.

EDRS PRICE MF-\$0.75 HC-\$3.15

DESCRIPTORS Abstracts; Achievement Tests; *Classroom Research; *Comparative Education; Educational Objectives; *Educational Research; *Foreign Countries; Foreign Students; Information Utilization; Language Arts; Language Instruction; Languages; Mathematics; Preschool Education; Program Effectiveness; *Research Utilization; School Surveys; Social Factors; Student Promotion; Teaching Methods

IDENTIFIERS *Finland

ABSTRACT

English abstracts of fifty-five research projects commissioned by the National Board of Education in Finland between 1971 and 1973 are cataloged in this bulletin. The research reports are available from ten different centers listed in the front of the bulletin. The reports are listed consecutively based on an internal numbering system; abstracts follow in the same order. Among the wide variety of research topics are social influences on student performance, efficacy of mathematics texts, various aspects of foreign language instruction, goals and objectives in curricula, preschool instruction, teaching methods, language arts, achievement tests, and promotion. (JH)

**NATIONAL BOARD OF EDUCATION
Research and Development Bureau
Finland**

INFORMATION BULLETIN

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5/73

COMMISSIONED RESEARCH WORK BY NATIONAL
BOARD OF EDUCATION 1971-73

This bulletin includes a summary of commissioned research work by the National Board of Education.

Contents:

- a summary of completed commissioned research work
- research summaries as indicated in the catalogue

Inquiries of the research reports can be made to the following addresses of institutes

1. Institute of Education, University of Helsinki
address: Fabianinkatu 28
00100 Helsinki 10, Finland
2. Institute of Education, University of Joensuu
Tulliportinkatu 1 a
80100 Joensuu 10
3. Institute of Special Education, University of Jyväskylä
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40100 Jyväskylä 10
4. Institute of Education, University of Jyväskylä
Seminaarinkatu 15
40100 Jyväskylä 10
5. Institute for Educational Research, University of Jyväskylä
Seminaarinkatu 15
40100 Jyväskylä 10
6. Institute of Education, University of Oulu
Kasarmintie 4
90100 Oulu 10
7. Institute of Education, Åbo Akademi
Biskopsgatan 13
20500 Åbo 50
8. Institute for Adult Education, University of Tampere
Kalevantie 4
33100 Tampere 10
9. Institute of Education, University of Tampere
Hämeenkatu 6 A
33100 Tampere 10
10. Institute of Education, University of Turku
Lemminkäisenkatu 1

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RESEARCH CATALOGUE

1. Pekka Käppi SCHOOL TRANSPORTATION AND SCHOOL ACHIEVEMENT.
Institute for Educational Research. University of Jyväskylä.
83/1971
2. Riitta Ritvanen THE RELATION OF THE PUPIL'S SOCIAL BACKGROUND
WITH SCHOOL SUCCESS IN THE GRADES VII AND VIII OF EXPERIMENTAL
COMPREHENSIVE SCHOOL DURING 1967-69. Institute for Educational
Research. University of Jyväskylä. 85/1971.
3. Veikko Jurama THE RELATION BETWEEN PUPIL'S HOME BACKGROUND
AND SCHOOL VARIABLES. Institute for Educational Research.
University of Jyväskylä. 88/1971
4. Pentti Pihanen APPLICATION OF THE PRINCIPLES OF PROGRAMMED
INSTRUCTION IN TEACHER-GUIDED CLASSROOM INSTRUCTION. Institute
for Educational Research. University of Jyväskylä. 92/1971.
5. Juhani Puro THE LEARNING MATERIALS IN MATHEMATICS IN GRADES
I-III OF THE COMPREHENSIVE SCHOOL IN THE SCHOOL YEAR 1970-71.
Institute for Educational Research. University of Jyväskylä.
93/1971.
6. Juhani Puro DIFFICULT, EASY, STIMULATING AND BORING PAGES IN
THE MATHEMATICS TEXT-BOOKS OF COMPREHENSIVE SCHOOL GRADERS
I-III I. Institute for Educational Research. University of
Jyväskylä. 97/1971.
7. Juhani Puro THE NEED OF SPECIAL INSTRUCTION IN COMPREHENSIVE
SCHOOL GRADERS I-III DURING THE SCHOOL YEAR 1970-71. Institute
for Educational Research. University of Jyväskylä. 98/1971.

8. Pentti Hakkarainen GOAL AND OBJECTIVE STATEMENTS CONCERNING THE PUPIL IN THE COMPREHENSIVE SCHOOL CURRICULUM. Institute for Educational Research. University of Jyväskylä. 100/1971.
9. Juhani Puro ACHIEVEMENT TESTS IN MATHEMATICS IN THE EXPERIMENTAL COMPREHENSIVE SCHOOLS IN 1970-71. Institute for Educational Research. University of Jyväskylä 101/1971
10. Leena Koppinen ACHIEVEMENT TESTS IN MOTHER TONGUE (FINNISH) IN THE EXPERIMENTAL COMPREHENSIVE SCHOOLS IN 1970-71. Institute for Educational Research. University of Jyväskylä. 104/1971.
11. Juhani Puro THE EFFECT OF TEXTBOOK ON SCHOOL ACHIEVEMENTS IN MATHEMATICS IN GRADES I-III. Institute for Educational Research. University of Jyväskylä. 112/1971.
12. Juhani Puro DIFFICULT, EASY, STIMULATING AND BORING PAGES IN THE MATHEMATICS TEXT-BOOKS OF COMPREHENSIVE SCHOOL GRADERS I-III II. Institute for Educational Research. University of Jyväskylä 113/1971.
13. Pentti Hakkarainen THE STRUCTURE OF THE GOALS AND OBJECTIVES IN THE COMPREHENSIVE SCHOOL CURRICULUM. Institute for Educational Research. University of Jyväskylä. 114/1971
14. Sauli Takala ACHIEVEMENT TESTING IN FOREIGN LANGUAGES IN 1970-71. Institute for Educational Research. University of Jyväskylä. 115/1971.
15. Sauli Takala COURSE CHOICES AND CHANGES AND PARTICIPATION IN REMEDIAL INSTRUCTION IN FOREIGN LANGUAGES. Institute for Educational Research. University of Jyväskylä 119/1972.
16. Markku Suomalainen THE AMOUNT OF CONDITIONAL PROMOTION AND NON-PROMOTION IN GRADE IX OF SOME EXPERIMENTAL COMPREHENSIVE SCHOOLS AT THE END OF THE SCHOOL YEAR 1970-71. Institute for Educational Research. University of Jyväskylä. 120/1971.

17. Kyllikki Röman SURVEY OF FUNCTIONAL DETERMINANTS IN EXPERIMENTAL PRESCHOOLS IN 1971-72. Institute for Educational Research. University of Jyväskylä. 121/1971.
18. Erkki Kangasniemi THE GRADE-LEVEL AND SUBJECT SELECTIONS OF EXPERIMENTAL COMPREHENSIVE SCHOOL VII-GRADERS IN THE FALL OF 1971. Institute for Educational Research. University of Jyväskylä. 122/1972.
19. Juhani Puro REMEDIAL INSTRUCTION IN GRADES VII-IX IN EXPERIMENTAL COMPREHENSIVE SCHOOLS IN 1970-71. Institute for Educational Research. University of Jyväskylä. 130/1972.
20. Seppo Hämäläinen ABSTRACTS OF COMMITTEE REPORTS FROM 1968-1971 ON THE FINNISH SCHOOL SYSTEM. Institute for Educational Research. University of Jyväskylä. 133/1972.
21. Uuno Tuomola PUBLIC AWARENESS OF THE COMPREHENSIVE SCHOOL AND MASSED INFORMATION I. Institute for Educational Research. University of Jyväskylä. 134/1972.
22. Eila Tiinonen PRESCHOOL MATERIAL AND ITS DEMAND. Institute for Educational Research. University of Jyväskylä. 140/1972.
23. Erkki Kangasniemi COMPREHENSIVE SCHOOL VI-GRADERS' AND THEIR PARENTS' FAMILIARITY WITH THE AVAILABLE CHOICE OF COURSES. Institute for Educational Research. University of Jyväskylä. 147/1972.
24. Pentti Hakkarainen THE GOAL DEFINITION OF COMPREHENSIVE SCHOOL REFORM AND CURRICULUM. Institute for Educational Research. University of Jyväskylä. 149/1972.
25. Kyllikki Röman WHAT PRESCHOOL CHILDREN'S PARENTS THINK ABOUT PRESCHOOL EDUCATION. Institute for Educational Research. University of Jyväskylä. 150/1972.

26. Pirjo Löfman ON THE CONNECTION OF SOCIAL BACKGROUND FACTORS WITH THE PLANS FOR FURTHER EDUCATION OF THE PUPILS IN THE COMPREHENSIVE SCHOOL.
A pro gradu -study in pedagogics. Institute of Education. University of Turku. 1972.
27. Seija Kero OPINIONS ON SUPPORTIVE TEACHING BY THE HIGHER GRADE PUPILS OF EXPERIMENTAL COMPREHENSIVE SCHOOLS. A laudator study in pedagogics. Institute of Education. University of Turku. 1972.
28. Arvo Koponen ACHIEVEMENT IN FOREIGN LANGUAGES IN DISTRIBUTED AND CONCENTRATED LEARNINGI. Institute for Educational Research. University of Jyväskylä. 159/1972.
29. Manu Renko TEACHER'S EFFECTIVENESS IN IMPROVING PUPIL'S SCHOOL ACHIEVEMENTS AND DEVELOPING THEIR PERSONALITY: SUMMARY. Institute for Educational Research. University of Jyväskylä. 161/1972
30. Teuvo Piippo BASIC CONCEPTS AND PROBLEMS IN THE EVALUATION OF DIFFERENTIATION IN THE COMPREHENSIVE SCHOOL. Institute for Educational Research. University of Jyväskylä. 151/1972.
31. Pehr-Olof Rönnholm INFORMATION ABOUT SCHOOL RESEARCH. Institute for Educational Research. University of Jyväskylä. 152/1972
32. Tauno Pasanen ACHIEVEMENT TESTING IN MATHEMATICS IN 1971-72. Institute for Educational Research. University of Jyväskylä 162/1972.
33. Hannu Saari PUPILS' AFFECTIVE REACTIONS DURING A 6-WEEK STUDY PERIOD. Institute for Educational Research. University of Jyväskylä. 167/1972.
34. Juhani Puro LEARNING DIFFICULTIES IN MATHEMATICS IN GRADES 1 TO 3 OF THE COMPREHENSIVE SCHOOL. Institute for Educational Research. University of Jyväskylä. 163/1972.

35. Arvo Koponen ACHIEVEMENT IN FOREIGN LANGUAGES IN DISTRIBUTED AND CONCENTRATED TEACHING II. Institute for Educational Research. University of Jyväskylä. 169/1972.
36. Arvo Koponen ATTITUDES AND ATTITUDE CHANGES TOWARDS FOREIGN LANGUAGES IN DISTRIBUTED AND CONCENTRATED TEACHING. Institute for Educational Research. University of Jyväskylä. 165/1972.
37. Marita Mäki-Rahkola THE DEVELOPMENT OF ATTITUDES TOWARDS THE SCHOOL AND SOME SUBJECTS IN THE SYSTEM OF CONCENTRATED TEACHING. Institute for Educational Research. University of Jyväskylä. 166/1972.
38. Teuvo Piippo GROUP WORK AS A TEACHING METHOD: CHARACTERISTICS AND POSSIBLE USES. Institute for Educational Research. University of Jyväskylä. 176/1973.
39. Hirvi-Linnakylä - Aaltonen-Ahonen-Mikkonen-Nuorti A PROPOSAL FOR THE CONCRETIZATION OF THE LANGUAGE ARTS SECTION IN THE COMPREHENSIVE SCHOOL CURRICULUM ON THE MUNICIPAL LEVEL. Institute for Educational Research. University of Jyväskylä. 184/1973.
40. Eeva Saraste A RESEARCH AND EXPERIMENTATION PROGRAM CARRIED OUT WITH THE PRE-SCHOOL CHILDREN IN SPARSELY POPULATED REGIONS. University of Joensuu. Research Institute of Karjala. 1972.
41. Nummenmaa-Syvänen-Kotakorpi-Lähdeniemi-Orell-Riekkinen-Ruuhilehto-Toivio-Tuohi PRE-SCHOOL CHILDREN IN URBAN TRAFFIC. Institute of Psychology. University of Tampere. 66/1972.
42. Kyöstiö-Saarinen-Lampi-Kyröläinen A PLAN FOR AN INTEGRATING INSTRUCTION IN THE PRE-SCHOOL. Institute of Behavioral Sciences. University of Oulu. 11/1972.
43. Reetta Väättäinen A STUDY OF THE INTEGRATION OF GIVING NUTRITIONAL INFORMATION IN THE COMPREHENSIVE SCHOOL. PHASE I. VIEWPOINTS OF TEACHING NUTRITION IN COMPREHENSIVE SCHOOL IN THE LIGHT OF THE EDUCATIONAL PLANS AND SCHOOL BOOKS. Institute of Nutritional Chemistry. University of Helsinki 1972.

44. Marjaana Soininen AN EXPERIMENT IN TRAINING FOR SCHOOL BASED ON THE UPPLANDS-VÄSBY EXPERIMENT. A pro gradu-study in pedagogics. Institute of Education. University of Turku. 1972.
45. Erkki Kangasniemi A REVIEW OF THE PROCESS OF PUPILS' COURSE SELECTION ON TRANSFERRING TO THE UPPER LEVEL OF THE COMPREHENSIVE SCHOOL. Institute for Educational Research. University of Jyväskylä. 171/1973.
46. Pentti Hakkarainen ON THE RELATIONS BETWEEN GOALS, PLANNING OF TEACHING AND EVALUATION. Institute for Educational Research. University of Jyväskylä. 178/1973
47. Hämäläinen-Linnakylä - Hirvi ACHIEVEMENT TESTS IN LANGUAGE ARTS (FINNISH) IN THE EXPERIMENTAL COMPREHENSIVE SCHOOLS IN 1971-72. Institute for Educational Research. University of Jyväskylä. 185/1973.
48. Arvo Koponen CHANGES IN SCHOOL MOTIVATION IN THREE GROUPS FOLLOWING DIFFERENT SCHEDULES. Institute for Educational Research. University of Jyväskylä. 186/1973.
49. Marita Mäki-Rahkola CHANGES IN SCHOOL MOTIVATION DURING TWO STUDY PERIODS. Institute for Educational Research. University of Jyväskylä. 189/1973.
50. Marita Mäki-Rahkola CHANGES IN THE PUPILS' SCHOOL MOTIVATION DURING A SCHOOL YEAR. Institute for Educational Research. University of Jyväskylä 199/1973.
51. Sauli Takala PUPILS' KNOWLEDGE OF SWEDISH AT THE END OF THE LOWER AND UPPER LEVEL OF THE COMPREHENSIVE SCHOOL. Institute for Educational Research. University of Jyväskylä 194/1973
52. Seppo Hämäläinen THE OBJECTIVES OF STUDY SKILL AND THEIR ATTAINMENT IN THE COMPREHENSIVE SCHOOL. Institute for Educational Research. University of Jyväskylä. 195/1973.

53. Leena Koppinen TEACHING NATIVE LANGUAGE TO THE LESS SUCCESSFUL
Institute for Educational Research. University of Jyväskylä.
84/1971.
54. Markku Suomalainen A LONGITUDINAL STUDY OF THE COMPREHENSIVE
SCHOOL I. BACKGROUND, FRAME OF REFERENCE AND SUBJECTS.
Institute for Educational Research. University of Jyväskylä.
154/1972.
55. Hannu Saari A STUDY OF CONCENTRATED TEACHING. Institute for
Educational Research. University of Jyväskylä. 153/1972.

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Nr 1

Käppi, Pekka (1971) School Transportation and School Achievement.
Institute for Educational Research, Report No 83, University
of Jyväskylä, Finland.

The purpose of the study was to map the problems related to school transportation, the central problem of study being the relationships between pupils' school transportation and school transportation and school achievements. The school transportation variable was extracted from the environmental variables and by varying it changes in the dependent variables. The subjects (N= 2100) consisted of primary school pupils of grades I, II, IV, VI and VIII. The results of the study indicated that, under prevailing administrative regulations, the length of school transportation does not usually cause any significant differences in the school achievement variables. The tendency could, however, be seen almost without exception that pupils having a long school transportation also had poorer school achievements. The length and frequency of waiting hours as well as unsatisfactory waiting conditions were clearly revealed by the study. Poor arrangements in school transportation brought about unreasonably long school weeks. In the extreme groups of pupils having long school transportation the length of the school week, transportation time included, amounted to 50-70 hours, whereas those with short school transportation had a school week of only 30-40 hours.

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Nr 2

Ritvanen, Riitta (1971) The relation of pupils' social background to school achievements on the VII and VIII grades of the experimental comprehensive schools in 1967-69. Institute for Educational Research, Report No 85, University of Jyväskylä, Finland.

The purpose of the study was to explain the relation of pupils' social background to school achievements, and in addition to explain the relation personalitu and ability variables to the variance of school achievements. Subjects were 969 comprehensive school VII-graders who participated in the research project initiated by the Central Board of Schools. Results indicated that social background variables explained about 20-30 % of the variance of school achievements. They explained more the choice of course levels in languages than that of mathematics. Pupils from lower social strata, large families and pupils whose parents were not much interested in the school reform chose more limited courses. Especially the importance of pupils' goals as regards school achievements was found out. Social variables seemed to explain these goals.

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Jurama, Veikko (1971) The relation between pupils' home background and school variables. Institute for Educational Research, Report No 81, University of Jyväskylä, Finland.

The research material included data for 240 primary school IV-graders and their families in two medium large towns. The data were obtained by interviewing the pupils' mothers, by rating their personal traits and by collecting information from school record.

Variables (30 in all) were manipulated mainly by correlation and factor analyses.

Results: The pupil's guardian's social stratum was one of the most central variables, and in the same direction varied also among others, mother's estimates of the child's scholastic aptitude, school achievement, intelligence and the family's apartment (home).

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Nr 4

Pihanen, Pentti (1971) Application of the Principles of
Programmed Instruction in in Teacher-Guided Classroom
Instruction. Institution for Educational Research, Report
No 92, University of Jyväskylä, Finland.

The study aims at the development of the material-media system.
Roman numerals were taught using programmed and program-guided
classroom instruction. In the experimental part of the results
of program-guided classroom instruction were compared with the
results obtained by pupils who had studied programmed material
at school and at home. Neither treatment produced significantly
better results. The results were not distinct in regard of
recall and application tasks. The results indicate that care-
fully prepared classroom instruction can produce results com-
pared to those obtained by means of individual study of linear
programmed material.

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Nr 5

Puro, Juhani (1971) The learning materials in mathematics in grades I-III of the comprehensive school in the school year 1970-71. Institute for Educational Research, Report No 93, University of Jyväskylä, Finland.

The data were collected by means of a teacher questionnaire (N=163 / 249 classes). Results by problem areas: 1) All available new math textbooks were used. Teacher's guides and supplementary materials were not available in all schools. 2) Teachers have to prepare a lot of additional material especially faster pupils. The differences between the various books in regard of the need for supplementary material were not statistically significant. 3) 70-90 per cent of the faster pupils do almost all of the problems intended for the slow pupils. 4) One third of the I-II grade teachers and two thirds of the III grade teachers thought that their schools had no concrete pupil material worth mentioning. In the light of the obtained results it can be stated that in the school year 1970-71 the teachers had had limited opportunity to realize the new mathematics curriculum.

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Nr 6

Puro, Juhani (1971) Difficult, easy, stimulating and boring pages in the mathematics text-books of comprehensive school grades I-III I. Institute for Educational Research, Report No 97, University of Jyväskylä, Finland.

The purpose for the study was to clarify which pages in the mathematics text-books of comprehensive school grades I-III were difficult, easy, stimulating and boring, and which pages were difficult to slow learners. The data were collected from teachers (N=168; number of classes 240) by means of a questionnaire. The results indicated the pages in question and the amount of different pages in different text-books. Difficult pages proved boring and stimulating pages generally easy. The results have already been used in the Department of School Research while difficult subject material has been studied in order to develop remedial instructional material.

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Nr 7

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Puro, Juhani (1971) The need of special instruction in comprehensive school graders I-III during the school year 1970-71. Institute for Educational Research, Report No 98, University of Jyväskylä, Finland.

The purpose of the study was to find out how great comprehensive school I-III grade teachers consider the need for special instruction and to what extent the learning material in use was related to it. 168 teachers from 240 classes with 3389 pupils participated in the investigation. Special instruction proved necessary with approximately 11.7. per cent of the pupils when certain text-book packages were used the need for special instruction increased from grade I to grade III, while using another text-book package the need decreased. The size and the composition of the class (single class, compound class) did not influence the need for special instruction.

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Nr 8

Hakkarainen, Pentti (1971) Goal and objective statements concerning the pupil in the comprehensive school curriculum. Institute for Educational Research, Jyväskylä, Finland. Report No 100/71

The National Board of Schools has commissioned from the Department of School Research in the Institute for Educational Research studies connected with the comprehensive school. The goal and objective statements concerning the pupil in the Report of the Committee on the Comprehensive School Reform (Report 1970 A 4, A 5) have been collected in the first part report. The statements have been shaped into such a form that they disclose the goals which pupils should attain. For example the statements 'the teacher or the school has to offer the pupil/the teacher or the school has to develop in the pupil.. have been replaced by the following " the pupil has to adopt/develop himself ..."

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Nr 9

Puro, Juhani (1971) Achievement tests in mathematics in the experimental comprehensive schools in 1970-71. Institute for Educational Research, Report No 101, University of Jyväskylä, Finland.

The purpose of the study was to (i) describe the mathematics evaluation program in the comprehensive schools and (ii) to present the results of achievement testing in the school year 1970-71. Grades VI-IX in the experimental comprehensive schools and a few classes in secondary schools (IV and V grades) participated in the study. The reliability coefficients varied between .70 and .80 and the difficulty level was generally suitable. In Swedish-speaking schools the results were slightly inferior to the results obtained in Finnish-speaking schools. This result is probably due to the lack of materials which are consistent with the new curriculum. The differences between the different courses proved to be great (in grade VII 1,5 grade points, in VIII and IX grades 2 grade points; grading system being from 4-10; 4=fail, 10=excellent). The secondary school pupils' results were better than in the intermediate course but weaker than in the advanced course. The achievement of cognitive objectives has been satisfactory.

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Pr 10

Koponen, Leena (1971) Achievement tests in mother tongue (Finnish) in the experimental comprehensive schools in 1970-71. Institute for Educational Research, Report No 104 University of Jyväskylä, Finland.

In the school year 1970-71 achievement tests in Finnish were held in connection with the evaluation program. The V, VII and IX grades of the Finnish-speaking experimental comprehensive schools and the V grades of nine secondary schools participated in the testing. In each of these classes the following tests were held: a listening comprehension test, a reading comprehension test, and a test on the knowledge of structures, spelling and vocabulary. The tests proved to be suitable as regards reliability, difficulty level and discrimination power. The V grades of secondary schools were more successful in all tests than the IX grades of the experimental comprehensive schools.

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Nr 11

Puro, Juhani (1971) The effect of textbook on school achievements in mathematics in grades I-III. Institute for Educational Research, Report No 112, University of Jyväskylä, Finland.

The purpose of the study was to find out what differences in the I-III grade pupils' mathematics performance can be found when different textbooks are used. School achievements were measured with two tests at each grade level. The number of subjects was 5051 appr. 1000 at each grade level. The groups were matched with regard to intelligence some school organizational, teacher, and material variables. The results indicate that the school achievements differed in the different groups (=using different textbooks) significantly from each other. However, the textbook accounted for only 1-4 per cent of the text performance variance.

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Nr 12

Puro, Juhani (1971) Difficult, easy, stimulating and boring pages in the mathematics text-books of comprehensive school grades I-III II. Institute for Educational Research Research, Report No 113, University of Jyväskylä, Finland.

The purpose of study was to locate the difficult, stimulating and boring pages in the mathematics textbooks used in grades I-III in spring 1971 in the experimental comprehensive schools. The data were obtained from teachers by means of a questionnaire (N=124, 172 classes). The pages which in teacher's opinion are difficult, stimulating and boring to the whole class were located. Simultaneously it was formed out how many pages in different textbooks teachers regards as difficult, stimulating and boring.

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Pr 13

Hakkarainen, Pentti (1971) The structure of the goals and objectives in the comprehensive school curriculum. Institute for Educational Research, Report No 114, University of Jyväskylä, Finland.

The discrepancy between the overall aims and the subjectwise objectives of the comprehensive school curriculum (1970) has thought about the present study. Objectives which concern pupils have been extracted and tentatively reformulated, and grouped into nine categories on the basis of their contents rated by 15 researchers and research assistants from the Institute for Educational Research. Within each category, objectives were rated on the dimension specific - general by means of paired comparisons; the raters were also asked to judge whether one objective is a direct specification of the other. Specification chains were formed on the basis of the obtained data and logical analysis within each category of objectives. It was not possible to make a hierarchically tight classification of objectives, as they are formulated in the Curriculum. The distance between the different chain units is not equal, either. The obtained structure of objectives forms a basis for the further analysis of objectives.

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Nr 14

Takala, Sauli (1971) Achievement testing in foreign languages in 1970-71. Institute for Educational research, Report No 115, University of Jyväskylä, Finland.

The aim was to (1) describe the evaluation program in foreign languages in the experimental comprehensive schools, and (2) to present the results of achievement tests in 1970-71. Grades VI-IX of the experimental comprehensive schools participated in the study as well as a few secondary schools (grade V). Reliability coefficients varied between .49 and .93 (split half), and the difficulty levels were generally suitable. The results indicate that the advanced course (compr. school) performed better on the same tests than the intermediate course (compr. school) and the secondary grades. This is interpreted to indicate that organizational differentiation produces expected results. The difference between the advanced and intermediate courses was rather great, and the intermediate course was found to be more heterogeneous than the advanced course. Appr. 5 - 11 % of intermediate course students obtained a result equal to or better than the average achieved by advanced course pupils.

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Nr 15

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Tahkala, Sauli (1972) Course choices and changes and participation in remedial instruction in foreign languages. Institute for Educational Research, Report No 119, University of Jyväskylä, Finland.

The purpose was to study course choices and changes and participation in remedial instruction in foreign languages in experimental comprehensive schools. The data were gathered by means of questionnaires in spring 1971. The sample consisted of 712 pupils. The results indicate that those pupils who had chosen the intermediate course were more often satisfied with their choice than those who had chosen either the general course or the extensive course. Most of the course changes were to the intermediate course. Approx. 30 per cent of the pupils had participated in remedial instruction in foreign languages but 60 per cent were willing to participate. Almost all wanted to get as much remedial teaching as at the present or even more. More than 50 per cent of the pupils considered remedial instruction useful. Remedial instruction had mostly dealt with grammar.

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Nr 16

Suomalainen, Markku (1971) The amount of conditional promotion and non-promotion in grade IX of some experimental comprehensive schools at the end of the school year 1970/71. Institute for Educational Research, Report No 120, University of Jyväskylä, Finland.

The purpose of the study was to investigate the amount of and causes for conditional promotion and non-promotion. The investigation covered IX-graders in 11 experimental comprehensive schools, 824 pupils in all. Data were collected by a questionnaire presented to the principals. Altogether 155 marks 4 (Fail) were given to 96 pupils (=11.7 %). 46.4 % of these marks were given in the second foreign language. 40.7 % of those conditionally promoted had poor school achievements in general or had requested conditional promotion. 60.4 % of the pupils succeeded in passing the extra examination, and were promoted. 5.7 % of the pupils investigated were not promoted. It can be assumed that the motive of those who requested non-promotion was reluctance to be moved to an easier course, because this in many cases limits admission to further studies.

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Nr 17

Röman, Kyllikki (1971) Survey of functional determinants in experimental preschools in 1971-72. Institute for Educational Research, Report No 121, University of Jyväskylä, Finland.

On the initiative of the preschool committee and the National Board of Schools preschool experiments were started in 11 municipalities in autumn 1971. Experiments are carried out both by the Ministry of Social Affairs and the Ministry of Education. Preschool is going to expand in the near future. One of the aims of the preschool experiments is to obtain information about the functioning conditions available for the preschools at the present moment. Experiments in progress have provided information on the following aspects: 1) Administrative organization of experimental preschools, 2) Physical environment of preschools, 3) Teachers and other personnel involved in experiments, 4) Preschool pupils and arrangements concerning them. Since experimentation has taken place under the auspices of social and educational agencies, it has been possible to gather experiences from different conditions and organizations, and to get some clues as to what aspects should receive special attention in the planning of preschools.

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Nr 18

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Finland

Kangasniemi, Erkki (1972) The grade-level and subject selections of experimental comprehensive school VII-graders in the fall of 1971. Institute for Educational Research, Report No 122, University of Jyväskylä, Finland.

The purpose of the study was to present information on the course selections of VII-graders and find out how in this respect the principles stated in the curriculum can be applied in practise. Data was collected by a questionnaire in September 1971 from comprehensive school VII-graders; 1292 pupils answered the inquiry. The results indicated that in the selections pressure towards advanced courses has increased to an ever growing extent. The teaching of optional subjects has been arranged almost exclusively in subjects mentioned in the comprehensive school curriculum. Special courses primarily intensify the teaching of common core and optional subjects. It has not been possible to arrange efficient instruction in other subjects for those exempted from foreign language instruction.

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Nr 19

Paro, Juhani (1972) Remedial Instruction in Grades VII-IX
in experimental comprehensive schools in 1970-71.
Institute for Educational Research, Report No 150,
University of Jyväskylä, Finland.

The purpose of the study was to find out on the basis of
remedial instruction diaries 1) to what extent remedial
instruction had been given, 2) how large the groups
participating in remedial instruction were, 3) the distri-
bution of pupils receiving remedial instruction as regards
sex and course-level, 4) to what extent remedial instruc-
tion was given during the different months of the term and
the various periods of the school day and 5) what topics
were dealt with in remedial instruction.

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No 20

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Finland

Ruusimäki, Seppo (1972) Abstracts of committee reports from 1968-1971 on the Finnish school system. Institute for Educational Research, Report No 133, University of Jyväskylä, Finland.

The report consists of abstracts (N = 28) of committee reports on the school system, which have been published during 1968 - 1971. The reports deal with education in general, some school form in particular, vocational education or a certain subject. Committee reports on the hiring system and wages, and all reports on the various curricula have not been included in this report.

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Finland

Mr 21

Tuomola, Uno (1972) Public awareness of the comprehensive school and massed information I. Institute for Educational Research, reports No 134, University of Jyväskylä, Finland.

The study attempted to clarify what elementary school teachers, pupils (sixth-graders) and their parents knew about the new comprehensive school and what effect massed information had on their knowledge. The data were gathered by means of questionnaires before and after the massed information in November organized by the National Board of Schools and The Finnish Broadcasting Company. The following fields were covered: administration, (care for the individual, structure of the comprehensive school, organization of school work, problems of differentiation, curriculum, types of class work, evaluation, extracurricular activities, and educational objectives.

Results: (1) Expected differences in the degree of awareness were found between the different groups. The teachers were best informed and the pupils least informed. (2) Massed information proved most useful for teachers. (3) Best was received information on the structure of the comprehensive school, extracurricular activities, and the types of class work.

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Nr 22

Tiihonen, Eila (1972) Preschool material and its demand.
Institute for Educational Research. Report No 140,
University of Jyväskylä.

The purpose of the study was to make a survey of all available preschool material in use in the experimental preschool classes and to judge the applicability of the said materials on the basis of teacher-ratings. Results: Preschool material consists of both play- and teaching equipment. Preschool classes functioning under the social system have considerably more materials than the classes supervised by the school system. Majority of the available materials is felt quite suitable for preschool use by the teachers, and only a few materials have been considered not suitable. At the moment the greatest demand for material is found in traffic instruction materials, learning games requiring deduction, wall-pictures and cheap equipment for out-door play.

7
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Nr 23

Wahlström, A. (1972) Comprehensive school VI-graders' and their parents' familiarity with the available choice of courses. Institute for Educational Research, Report 147, University of Jyväskylä, Finland.

The aim of the study was to find out how much information VI-grades and their parents had received on the various course choices, and how capable they were to make the choices. The data were collected in May 1971 by questionnaires from all municipalities in the comprehensive school experiments. 1223 VI-graders and 1222 guardians answered the questionnaire. The results indicated that the guardians had generally acquired more information, but the range was also great; 10 per cent of the VII-grade, the corresponding percentage in pupils was 4. The pupils had acquired more quantitative information than the guardians, whereas the information acquired by the guardians was more qualitative than that acquired by the pupils. Teachers and booklets on the comprehensive school were the most important sources of information for the pupils.

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Nr 24

Rakkarainen, Pentti (1972) The goal definition of comprehensive school reform and curriculum. Institute for Educational Research, Report 149, University of Jyväskylä, Finland.

Goal definitions deal with e.g. the following problems: (1) How to describe the goals and objectives? (2) How to justify the goals and objectives and (3) How to analyze the empirical process of goal definition? In the present study they were subjected to theoretical analysis. The problems were formulated into 10 questions. Each question was analysed from the point of view of the comprehensive school reform and its curriculum. The Finnish comprehensive school reform was used as an example and it was compared with the theoretical models and concepts. The central theoretical problem of this study was the justification of goals and objectives and the division of the defining process of goals and objectives into component parts.

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Nr 25

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Finland

Röman, Ylilä (1972) What preschool children's parents think about preschool education. Institute for Educational Research, Report no 150, University of Jyväskylä, Finland.

The study examined views and attitudes about preschool education of those parents whose children participated in an experiment arranged by the Preschool Committee. The sample, composed of 325 families, included all parents. The survey was conducted by means of a questionnaire, which was returned by 99.24 % of all parents. The question dealt with: the need of preschool, its organizational relation to the school system, its aims and pedagogical contents, cooperation between home and school. It was generally hoped that preschool were available to all children and that it would function as a separate unit or in connection with the kindergarten rather than the comprehensive school. Central educational aims were the development of cooperation, problem solving ability and creativity, and the diagnosis and remedial treatment of learning difficulties. The parents expected the preschool activities to resemble more those of the kindergarten than of the school. The parents were willing to participate the cooperation between home and school.

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nr 26

Löfman, Pirjo (1972) On the connection of social background factors with the plans for further education of the pupils in the comprehensive school. A pro gradu study in pedagogics. Institute of Education, University of Turku.

The problems in the study were: 1) to what amount social background factors are connected with the plans made for further education by the higher grade pupils of the comprehensive school and their parents, and 2) to what amount talent explains the differences in plans for further education between pupils and their parents from different home-environments.

VII-grade pupils from experimental comprehensive school participated in the study. Information about the variables was received from the comprehensive school information bank.

The interaction with all the social background factors talent proved to have the most decisive effect on the differences in plans for further education. Talented pupils and their parents planned clearly more often for and education in the upper secondary school. A statistical analysis showed the differences to be highly significant. The hopes and plans for further education were partly dependent on social background factors but not decisively. The most important factor considered in the planning was the pupil's talent. The study includes a worthy presentation of previous studies dealing with social background factors.

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nr 27

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Finland

Kero, Seija (1972) Opinions on supportive teaching by the higher grade pupils of experimental comprehensive schools. A laudatur study in pedagogics, Institute of Education, University of Turku.

The purpose of the study was to survey the need for supportive teaching in various subjects in the higher grades of experimental comprehensive schools, the students' attitudes towards supportive teaching, their views of it, its organizational matters, and its possibilities.

The population consisted of the VII to IX-grade pupils of the experimental comprehensive schools in Lieto-Tarvasjoki and Vampula, which had started without a parallel school system the 1st of August, 1967. The material was collected with a multiple-choice questionnaire in May 1970.

405 pupils participated. 87 per cent of them had received supportive teaching in one or more subjects. Of the 405 pupils 61 per cent had received supportive teaching in mathematics, 60 per cent in Swedish, 35 per cent in English, and 29 per cent in Finnish.

The pupils desired supportive teaching in 3.3 subjects. 64 per cent wanted it in mathematics, 63 per cent in Swedish, and 51 per cent in English. The pupils thought they need supportive teaching in 2.6 subjects. The most suitable amount of pupils in a supportive teaching group was considered to be 2 to 5.

The most important useful effect of supportive teaching proved to be improvement in learning results. Supportive teaching was unanimously regarded as additional teaching in an important subject meant for somebody in temporary

difficulties. Supportive teaching was considered equal to taking private lessons.

The most common suggestion for improvement implied the idea of increasing the hours for supportive teaching and making the groups for it smaller.

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Nr 28

Koponen, Ervo (1972) Achievement in foreign languages in distributed and concentrated learning I. Institute for Educational Research, Report No 159, University of Jyväskylä, Finland.

The purpose was to study foreign language learning in ordinary (distributed) schedule and in concentrated schedule and in concentrated schedule (the year is divided into six periods and foreign languages are studied intensively during one period and not at all during the next, etc. Each period contains six five-day weeks. The subjects were 189 pupils in grade 7 in two experimental comprehensive schools. The differences between the two systems were studied by means of Student's t-test, and the relations between the independent variables (linguistic ability, attitude towards Swedish language, and sex) and the language achievements were analyzed by correlation techniques. There were no appreciable differences between the two groups in the test measuring the achievements during the whole school year. The effects of independent variables were greater in distributed learning, in which the differences between the pupils with high linguistic ability grew larger, but not in concentrated learning. The result indicates that concentrated learning is better in this respect, and can be recommended for foreign language teaching.

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Nr 29

Lehto, Hannu (1972) Teacher's effectiveness in improving pupils's school achievements and developing their personality: Summary. Institute for Educational Research, Report 161, University of Jyväskylä, Finland.

The report summarizes the present author's previous study published in the series Jyväskylä studies in education, psychology and social research, and present a theory of instruction based on educational technology and main results. The report is mainly aimed at the bodies (educators and planners) in charge of teachers' initial and further training.

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Helsinginkatu 34
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Finland

Piippo, Teuvo (1972) Basic concepts and problems in the evaluation of differentiation in the comprehensive school. Institute for Educational Research, Report No 151, University of Jyväskylä, Finland.

The report deals with the basic concepts of educational and curriculum planning and development, and with curriculum evaluation. The report forms the basis for the general principles and problems of the subsequent evaluation of differentiation in the comprehensive school.

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0-530 Helsinki 52
Finland

Nr 31

Per-Olof Rönholm (1972) Information about school research.
Institute for Educational Research, Report No 152,
University of Jyväskylä, Finland.

The report presents research projects in progress in the
Department of School Research, Institute for Educational
Research. The activities of the Evaluation Section in
the Department of School Research are also discussed.

BEST COPY AVAILABLE

Paunio, Reino (1972) Achievement testing in mathematics in
1971-72, Institute for Educational Research, Report No
100, University of Jyväskylä, Finland.

The report comprises the test organization, contents of the
tests as well as description of the results in the 1971-72
achievement tests in mathematics. In addition to the ex-
perimental comprehensive schools a certain amount of civic
and other primary schools participated in the study.

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Saari, Hannu (1972) Pupils' affective reactions during a
6-week study period. Institute for Educational Research,
Report 167, University of Jyväskylä, Finland.

The report is one of a series of reports which analyze various aspects of concentrated teaching in which the two-term school year is divided into shorter periods forming an organic unit of study. Weekly measurements (during 7 weeks) assessed pupils' attitudes towards the school, the experimental study system, biology, geography, physics, and chemistry. Of the three attitude components the affective component, in particular, has been interpreted as an indicator of the pupils' school motivation and its development. General school motivation is positive. In specific subjects motivation depends on whether the pupil is a fast or slow learner, whether the studied course is an advanced or ordinary level course, and whether the subject is studied by the pupils or not. In fast learners and in advanced course the motivation curve exhibits upward and downward swings, while in slow learners and in ordinary course the curve is even.

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Finland

Puro, Juhani (1972) Learning difficulties in mathematics in grades 1 to 3 of the comprehensive school. Institute for Educational Research, Report No 163/1972, University of Jyväskylä, Finland.

The purpose was to (1) establish the frequency of learning difficulties in mathematics in grades 1 to 3 of the comprehensive school, and to analyze how certain variables concerning pupils, organization of school work, teachers, and teaching materials are related to learning difficulties, and (2) to survey the stuff that is found difficult. The study comprised 240 classes with a total of 3389 pupils. The data were gathered at several stages mainly by questionnaires. The data analysis yielded information about the frequency of learning difficulties in mathematics in the early grades and about the relations between some collective variables and the frequency of learning difficulties. The difficult content areas were also mapped.

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Finland

Koponen, Arvo (1972) Achievement in foreign languages in distributed and concentrated teaching II. Institute for Educational Research, Report No 169, University of Jyväskylä, Finland. ISBN 951-677-082-7.

The purpose was to analyze what changes occurred during the summer holidays, in the pupils' retention of foreign language skills in groups which had been taught according to the ordinary (distributed) schedule and the concentrated schedule (a 6-week period of rather intensive FL-learning is followed by a "zero" 6-week period when there is no FL-study, succeeded by a "full" period etc). It was also studied how certain intervening variables (such as sex, linguistic ability, attitudes toward FL-learning) are related to FL-learning. There were no significant changes in the two groups' FL-skills; the distribution vs. concentration of FL-study does not bring about changes in FL-achievements during the period of the 3 months' summer holidays. The analysis of the relations between the intervening variables and FL-achievements revealed that in the concentrated system FL-achievements are to a smaller extent affected by some relevant background variables than in the distributed system.

Loponen, Arvo (1972) Attitudes and attitude changes towards foreign languages in distributed and concentrated teaching. Institute for Educational Research, Report 165, University of Jyväskylä, Finland. ISSN 951-677-076-2.

The purpose was to examine whether the two groups differ in view of their attitudes towards foreign language learning. The following questions were studied (1) What are the pupils' attitudes towards foreign languages? (2) How do these attitudes change? (3) How are some intervening variables (sex, type of course, remedial teaching) related to these attitudes? No significant differences were found between the two groups with regard to attitudes towards foreign languages. The effect of intervening variables was stronger in distributed teaching and the attitudes became gradually less positive, whereas in concentrated teaching there were periods declining and increasing interest. Concentrated teaching thus has certain advantages over ordinary distributed teaching and it can be recommended for foreign language teaching since it has no negative effects on the pupils' attitudes.

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Finland

Marita Mäki-Rahkola (1972) The development of attitudes towards the school and some subjects in the system of concentrated teaching. Reports from the Institute for Educational Research 166, University of Jyväskylä, Finland.
ISBN 951-677-077-0.

The study examined the development of pupil attitudes towards the school, the concentrated system of studies, tests, and subjects studied intensively during two periods. It was further studied how some features of concentrated teaching such as the length of the study period and the number of weekly hours influence attitudes. The five measurements were carried out by means of the "attitude differential" in grades VIII and IX (N=300). The results indicated that the system of concentrated study periods is more suitable for older pupils and for slow learners for whom the end of a study period probably offers a more meaningful intermediate goal than the end of a term. In regard of some aspects of the concentrated system it was found that a period lasting 6 weeks was the most favourable to positive attitude development, in the zero periods attitudes remained unchanged.

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Research and development bureau Commissioned research nr 38
Helsinginkatu 34
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Finland

Piippo, Teuvo (1973) Group work as a teaching method:
characteristics and possible uses. Reports from the
Institute for Educational Research 176. University
of Jyväskylä, Finland. ISBN 951-677-090-8.

The report gives a brief review of the forms and uses of
group work on the basis of a few studies dealing with
group work and some textbooks on didactics. Suitability
is assessed by using as criteria the objectives of
general education and the general didactic principles of
teaching. The suitability of group work for different
subjects and learning tasks is also treated to some
extent. As a conclusion it is suggested that group work
primarily contributes to the attainment of the formal
objectives of cognitive education and the objectives
of social education.

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Finland

Hirvi, Vilho - Linnakylä, Pirjo - Aaltonen, Liisa -
Ahonen, Ritva - Mikkonen, Antti - Nuorti, Pentti
(1973) A proposal for the concretization of the
language arts section in the comprehensive school
curriculum on the municipal level. Reports from
the Institute for Educational Research 184.
University of Jyväskylä, Finland ISBN 951-677-113-0.

The purpose of the study was to apply a simplified model
of Bloom's taxonomy of educational objectives to
concretize the language arts section in the comprehensive
school curriculum. A team consisting of teachers, pupils
and research assistants analysed the educational
objectives of the language arts along two dimensions:
behavior goals and contents goals, and made propositions
for the evaluation of the goal achievement.

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Nr 40

Karaste, Eeva (1972) A research and experimentation program carried out with the pre-school children in sparsely populated regions. University of Joensuu, Research Institute of Karjala.

The purpose of the project is, through planning and experimenting, to gain results with which the realization of pre-school can be facilitated especially in the regions where services for pre-schoolers are needed due to the lack of stimulation in the area and its cultural inequality.

The material was collected by interview including 33 families. The selection criterion was that 80 per cent of the families lived in sparsely populated areas and the rest near by densely populated areas. The sample was random. The purpose of the interview was to gain knowledge of the expectations of the parents, their attitudes towards the pre-school and what forms of pre-school would serve them best. A pre-school held in the premises of the nearest elementary school was supported by the majority. Some were quite enthusiastic about the advantages of a mobile pre-school. Also the attitudes towards teaching at home were surprisingly positive. Correspondence teaching received both approval and criticism. A camp received only little support.

When surveying the parents' opinions about the curriculum of the pre-school it becomes obvious that the pre-school has primarily been seen as a play-school where the child's activity needs and play come first. The necessity of intellectual instruction is placed second.

A respective pre-school plan for the rural communes of Ilomantsi, Juuka, Pyhäselkä and Kiihtelysvaara has been drafted.

The intention is to use various experimental models. The planning has been based on the experimentation plans of the pre-school committee in which a 3 x 3 design is used. As variables it included nature, social tradition, and modern environment, the effects of which on the affective, cognitive and psychomotor areas are studied.

Nummenmaa-Syvänen-Kotakorpi-Lähdeniemi-Orell-Riekkinen-
Ruuhilehto-Toivio-Tuohi (1972) Pre-school children in
urban traffic, Institute of Psychology, University of
Tampere. 66.

I part

The objective was to draft a program for giving traffic
education to 5- and 6-year old children applicable to
pre-school teaching. This drafting was based on information
received from three subsurveys.

The tasks of the subsurveys were as follows:

- a) to give a general view of the pre-schoolers' behavior
in traffic and the activities involving moving outdoors.
- b) to study the pre-schoolers' skills in traffic.
- c) to find out how parents participate in giving traffic
education.
- d) to give an account of the children's views about traffic
in general.

The frame of the teaching program consisted of an educational
film with which the children were taught the essential
skills necessary for a pedestrian. In addition a series of
slides was presented. The children's knowledge were tested
with the purpose to compare the effects of the different
ways of presentation.

II part

Firstly, the aim of this part was to survey the children's
daily interests and activities and to find the most common
reasons that cause a child to move about and play.

Secondly, the children's abilities to manage in urban traffic
were clarified along with their knowledge and views about
the traffic. Thirdly, a general view was given about the

giving of traffic education by the parents and how the parents think their children behave in traffic.

The research material was collected in the city of Tampere in spring 1972. 153 pre-school children were as subjects, and they were either interviewed or their behavior in traffic was registered by a video-tape recorder. In addition the parents of 90 pre-schoolers were interviewed.

The research established that the children's moving area usually consisted of their own yard or the close neighbourhood. In addition to the child's natural need to move the most important factors effecting the child's moving about were the play areas, peers and special interests. The activity of the parents had a decisive effect on the expansion of the children's living space. Almost one fourth of the children had special interests.

In investigating the children's skills to move about it was found out that their behavior in traffic had no consistency. 47 per cent of the subjects stopped before crossing the street and up to 91 per cent of the children used the crosswalk. The girls turned out to use crosswalks more frequently and to cross the streets more carefully than the boys. When alone or with a peer a child stopped and looked more frequently before crossing than when with an adult. The boys run and played more on the pavements than the girls. Also it was established that there was accumulation in the amount of correct reactions in traffic.

In surveying the children's knowledge and views about the traffic, it turned out that over 25 per cent had the idea that one could not be hit by a car on a crosswalk. Almost half of the children considered the traffic sign "children" to be for pedestrians. Only 3 out of 40 children thought they would manage alone in the traffic and about 20 children were not sure.

Nummenmaa et. al.

From the interview with the parents it became apparent that most mothers had taught their children to stop and look before crossing, to walk on the pavement, to use the crosswalk, the meaning of the trafficlighs, and that one is not allowed to play on the roads. Comparatively few parents had taught to cross the street in a group in areas with heavy traffic and to look behind before crossing the street. The parents experienced the factors associated with the street crossing difficult but important to teach. The teaching of girls and boys is quite similar, and the mothers estimated the girls to move about in traffic somewhat better than the boys.

III part

The purpose of the teaching experiment was to study the applicability of a film in giving traffic education to children and to measure its effectiveness.

The results of the testing of the children's knowledge show that all the experimental film-groups differ from the control group. It can be concluded that the experimental groups' knowledge about traffic have increased due to the teaching.

The results of the test were examined also in the slide group. With this group the aim was to study the effect of slides, comparable to a film, in general, and in comparison to that of the film in particular.

Compared to the film-group the slide-group succeeded equally well. The results with the slides prove that this cheaper and more flexible method can produce as good teaching results as teaching with a film.

Kyöstiö-Saarinen-Lampi-Kyröläinen, A plan for an integrating instruction in the pre-school, 11/1972, Institute of Behavioral Sciences, University of Oulu.

The goal of the study has been a plan for an integrating instruction in the pre-school.

In the report by the plan for an integrating instruction is meant the organizing of the learning experiences in such a way the information, skills and attitudes are learned in an integrated manner typical of children.

Experimenting with the plan has started in a pre-school class at the Teacher Training College of Oulu in autumn 1972. In the class special attention is given to reading and writing, as well as to the development of mathematical skills and also to the teaching of these skills at individual and group levels.

At the beginning a comprehensive school teacher was teaching the class, but since autumn 1972 a kindergarten teacher. Along with the 6-year olds also 5-year olds have nowadays been taken as pupils. The amount of pupils is 20.

The flexible linking of pre-school into the comprehensive school causes difficulties. The fact that there are no teachers educated for this purpose creates additional problems.

In the areas of planning and methods a close co-operation between the pre-school and the two first grades of the comprehensive school is necessary. In the pre-school the instruction is based on complete integration. The plan takes into consideration the child's needs, maturity level and individuality. Attention is paid to the appropriateness

of the working area. The importance of the function of the teacher is emphasized as well as the interaction between pre-school and home. The development of a child is observed from the biological, ethical, social, and aesthetical points of view. In each field some tasks and goals are presented. In addition some learning units composed of the learning situations in the main subject matters are presented in a general way and at the end suggestions are made for materials to be acquired.

A film has been made of a day in a pre-school class at the Teacher Training College of Oulu (40 min/Sony), copies of which can be ordered from the Institute of Behavioral Sciences, University of Oulu.

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Västtäinen, Reetta (1972) A study of the integration of giving nutritional information in the comprehensive school. Phase I: Viewpoints of teaching nutrition in comprehensive school in the light of the educational plans and schoolbooks. Institute of Nutritional Chemistry, University of Helsinki.

The purpose of the study is 1) to give an account of the integration of nutritional information into the subject matters of comprehensive school on the basis of the curriculum for the comprehensive school, 2) to specify the goals of teaching nutrition on the basis of the curriculum for the comprehensive school and teaching material based on it, 3) to compare the goals of teaching nutrition on the corresponding grades in other countries.

The study demonstrated that the themes proposed in the curriculum for the comprehensive school are indefinite, too wide, and incoherent.

The critical examination of the teaching material showed that there are errors and irrelevant tasks in the books. In addition, the same themes are repeated.

There are mistakes also in the guides for teachers. Efficient teaching requires that the teacher has a thorough basic knowledge of the subject.

When teaching nutrition in Sweden and West-Germany were compared it was found that there are no clear differences in the basic teaching. On the other hand, some differences were found in the style of the educational plans and teaching material between Scandinavia and West-Germany.

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Finland

nr 44

Soininen, Marjaana (1972) An experiment in training for school based on the Upplands - Väsby experiment.

A pro gradu study in pedagogics. Institute of Education. University of Turku.

The aim of the study was to give information about the possibilities of applying to our schools the material tried out in the Upplands-Väsby experiment in training for school.

The subjects were 128 first-grade pupils from four primary schools in Espoo during 1970-71. 14 to 15 of the slow learners in the classes I A and I B of the primary school in Haka formed the experimental group. As control groups were the other pupils in these classes, a class in Lähderanta's primary school, where a simple motivating program was performed as a parallel experiment, and classes in Vapaaniemi's and Leppävaara's primary schools. At first all the pupils were tested with the LJUNGBLAD test battery which includes four subtests: number-comprehension, memory, reading and copying. In addition RUOPPILA's picture-vocabulary test was used. The teachers of the experimental groups and the motivation group were given an evaluation blank with eight items to be filled with the purpose of receiving information of the child's social and emotional state. Also all the pupils received attitude questions the intent of which was to find out the child's own attitudes towards school.

The results showed that the girls were more ready for school than the boys. However, after diagnostic teaching and motivating the boys' results improved noticeably. The progress was greatest in vocabulary, the memory and number-comprehension tests. On the whole, diagnostic teaching has proved to raise the performance level of the pupils. The results indicate also that with this method the performance level of the underachievers can be raised.

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Helsinki,inkatu 34

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Finland

Kangasniemi, Erkki (1973) A review of the process of pupils' course selection on transferring to the upper level of the comprehensive school. Reports from the Institute for Educational Research 171. University of Jyväskylä, Finland. ISBN 951-677-085-1.

The purpose was to clarify the process of course selection. Three stages were proposed in the selection process: the school's recommendation (R), the pupil's and parents' preliminary decision (D), and final actual course selection (S). Moreover, the study briefly dealt with the selectivity related to course selection and the manifestation of cognitive dissonance in the selection process. Subjects were experimental comprehensive school pupils in the sixth grade in the spring of 1971 and the same pupils in the seventh grade in autumn 1971 (N=1146). A sample of 150 pupils was taken to analyze selectivity and a sample of 60 pupils to study dissonance. The results indicated that in the majority of cases the selection process coincides entirely with the school's recommendation (i. e. R=D=S). There is fairly little freedom in the choice of different alternative courses (sets), and is most common in the case of subject/pupil. The selection process is selective with regard to school success. The pupils' preliminary decision (D) is generally consonant with other cognitions. Among the pupils who have taken the advanced courses, decision is dissonant with the pupils' evaluation of the courses.

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Nr 46

Maasilta, Pentti (1973) On the relations between goals, planning of teaching, and evaluation. Reports from the Institute for Educational Research 178. University of Jyväskylä. Finland. ISBN 951-677-095-9.

The report deals with the usefulness of different goals in the planning of teaching and evaluation. The question is discussed theoretically and suggestions of how the goals can be attained by teaching are sought in the report of the comprehensive school committee. The relations between goals and teaching are surveyed generally and briefly also the ways by means of which the goals can be attained (learning contents, teaching materials and methods, specification of goals and didactic principles). The suggestions for teaching expressed in the general part of the comprehensive school curriculum are scarce. Proposals for improvement: 1. Specification of goals and derivation of suggestions for teaching from the goals, 2. Transformation of the vague "integrative principles" into more specific goals, 3. Definition of relative weights and timing and 4. Improvement of the curriculum for the needs of the users.

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Nr 47

Hämäläinen, Seppo - Linnakylä, Pirjo - Hirvi, Vilho
(1973) Achievement tests in language arts (Finnish)
in the experimental comprehensive schools in 1971-
1972. Reports from the Institute for Educational
Research 185. University of Jyväskylä, Finland.
ISBN 951-677-115-7.

During the school year 1971-1972 the achievement tests
in the language arts were arranged in the Finnish experi-
mental comprehensive schools in grade 9, in five secondary
schools in grade 5 and in two civic schools in grade 9.
Each class took the language knowledge and reading compre-
hension tests. Furthermore the comprehensive school pupils
wrote an article of the reproduction type. The tests proved
suitable for the level in question and were of sufficient
technical quality.

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Nr 48

Koponen, Arvo (1973) Changes in school motivation in three groups following different schedules. Report from the Institute for Educational Research 186. University of Jyväskylä, Finland. ISBN 951-677-125-4.

The purpose of the study was to explain the changes in school motivation of pupils in three different teaching groups when they entered the upper level of comprehensive school. The examined teaching groups were (1) the group of distributed teaching, which studied according to the normal schedule of comprehensive school, (2) the group of partially concentrated teaching, which studied only two subjects according to a schedule which provides for alternating periods of concentrated study and limited/or no study of the subjects and (3) the group of concentrated teaching, which studied most subjects according to the alternating periods schedule. There were differences in school motivation between the groups, but the differences were not caused by the different scheduling of subjects. The entering the upper level of comprehensive school per se makes the pupils' school motivation more uniform.

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Nr 49

Mäki-Rahkola, Marita (1973) Changes in school motivation during two study periods. Institute for Educational Research, Report No 189, University of Jyväskylä, Finland.

The purpose of the investigation was to discover the changes in students' school motivation during two study periods (1 period = 6 weeks) within a concentrated learning system. Initial measurements were carried out in the 8th and 9th forms of Hankasalmi experimental comprehensive school in the middle of the second period, the final measurement took place at the end of the third period. The attitude towards concepts describing general school achievement was very positive, although attitudes declined sharply. The attitude towards concepts describing school work was neutral and there were no changes. The attitude towards grade repetition was extremely negative during the whole investigation, although attitudes improved significantly.

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Nr 50

Mäki-Rahkola, Marita (1973) Changes in the pupils'
school motivation during a school year. Reports
from the Institute for Educational Research 199.
University of Jyväskylä, Finland. ISBN 951-677-158-0.

The purpose was to study what changes take place in the school motivation of groups studying in accordance with a normal timetable (the same weekly programme during the two terms) and a "periodical" timetable (the school year is divided into "period" units consisting of six weeks and incorporating alternating periods of stepped-up study of some subjects with little or no study of other subjects). The subjects were c. 350 pupils in the 8th and 9th forms of some experimental comprehensive schools. The mode of studying did not affect motivation, since attitudes developed in the same direction in both groups. School motivation was high during the whole school year, although there was some decline in attitudes.

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Nr 51

Takala, Sauli (1973) Pupils' knowledge of Swedish at the end of the lower and upper level of the comprehensive school. Reports from the Institute for Educational Research 194. University of Jyväskylä, Finland. ISBN 951-677-151-3.

Pupils' knowledge of Swedish was measured with multiple-choice tests of grammar, vocabulary, reading comprehension and listening comprehension on grades VI and IX (final grades of the lower and upper levels of the comprehensive school, respectively). Some textbooks had been used in several different courses, which made it possible to make comparisons between them. Careful planning (and teachers' positive ratings of the tests) also made it possible to evaluate to what extent the goals of L2 teaching had been achieved. Best results had been obtained in listening comprehension, which was deemed to be generally satisfactory. On the other hand, the pupils' knowledge of structures and vocabulary was not adequate if we use the curriculum as the criterion. This is particularly true of the general and intermediate course and the short course. Reading comprehension also needs more attention. The difference between the intermediate and advance course proved great. This is problematic since graduates from the two courses are eligible for the gymnasium. A more effective use of formative testing and consequent corrective procedures is clearly indicated.

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nr 52

Hämäläinen, Seppo (1973) Opiskelutaidon tavoitteet ja niiden toteutuminen peruskoulussa lukuvuonna 1971-72. - The objectives of study skill and their attainment in the comprehensive school. Reports from the Institute for Educational Research 195. University of Jyväskylä, Finland. ISBN 951-677-153-X

The purpose was to describe and evaluate the objectives of study skills in the comprehensive school, the teaching methods and materials used to attain the objectives, and to evaluate to what extent the objectives have been reached. In addition, it is examined to what extent differences in the pupils' educational achievements can be predicted by means of study skills. The theoretical paradigm of the structure of study skills designed to serve as the frame of reference for the present study obtained empirical support in a factor analytical study of study skill: study skill contains the domains of study hygiene, attitudes towards study, and study technique, all of which contribute independently to the explanation of educational achievements. A representative sample of comprehensive schools were taken for the evaluation of study skill: 1008 pupils from grades 6 and 9 and 96 teachers.

The evaluation was based on the content analyses of objectives and materials and on the measurements of teaching procedures and educational achievements with school achievement tests and questionnaires.

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Commissioned research nr 2.33

Helsinginkatu 54

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Finland

Koppinen, Leena (1971) Teaching native language to the less successful. Publication nr 84 of the Institute for Educational Research, University of Jyväskylä.

The report is a review of David Holbrook's book English for the Rejected. Training Literacy in the Lower Streams of the Secondary School (1964).

At first the main features of the English school system are presented.

Samples of the pupils' products are presented and at the same time emphasis is laid on the factors to be considered when reading the pupils' essays. Special attention is paid to the helping of the pupils with various difficulties.

Holbrook emphasizes creativity, its development and execution in the everyday school work. His definition of creativity includes all the activities furthering and maintaining life. According to Holbrook creativity is in essence something that possibly cannot be measured exactly but which is revealed for example in the maturity and freedom of self-expression and emotional life. According to him everybody is creative to some extent. The task of the teacher is first to become aware of his own creativity in order to be able to free the creative energies of his pupils.

Holbrook gives advice to the teachers in curriculum planning and in the use of the appliances. He has prepared a detailed report on curriculum planning of the native language. In addition he states factors to be considered in teacher training.

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Nr 54

Suomalainen, Markku (1972)-A longitudinal study of the
comprehensive school I. Background, frame of
reference, and subjects. Institute for Educational
Research, Report No 154, University of Jyväskylä,
Finland.

The purpose of the study was to describe the background,
i.e. the planning and research to date, the frame of
reference and some characteristics of the subjects. The
report is designed to provide an overview of the project.

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Nr 55

Saari, Hannu (1972) A study of concentrated Teaching.

Institute for Educational Research, Report No 153,

University of Jyväskylä, Finland.

The purpose was to collect information about teachers "everyday experience" concerning a variety of concentrated learning (Epochenunterricht, periodläsning). A literature survey shows that concentrated learning schedules have a long history. The division of the school-day into various lessons (distributed learning) dates back to the period of Enlightenment. Concentrated learning is a mean of overcoming the piecemeal character of teaching and learning. In Finland, concentrated learning has been used experimentally during the last 20 years. The results indicate that concentrated learning is a feasible way of organizing school work, which makes easier to coordinate school work and make it more effective.